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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,297	11/19/2001	William L. Bowden	08935-250001 / M-4970	8442

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EXAMINER

WEINER, LAURA S

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,297

Applicant(s)

BOWDEN ET AL.

Examiner

Laura S Weiner

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11, drawn to an alkaline battery, classified in class 429, subclass 224.
 - II. Claims 12-26, drawn to a method of manufacturing an alkaline battery, classified in class 29, subclass 623.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as reacting Mn_2O_4 with an acid.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Fox on August 7, 2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1745

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. Claims 4-5, 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4-5 are rejected because it is unclear what is meant by "the lambda-manganese dioxide is heated to a temperature of..." because these claims depend on a product claim and these claims do not further limit claim 1 from which the claims depend from.

Claim 9 is rejected because it is unclear what is meant by "wherein the lambda-manganese dioxide is heated to a temperature of..." because the claim is a product claim.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1745

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lin (5,596,278).

Lin teaches in column 8, Example 1, a conventional Zn/MnO₂ (1.5 volt) AA alkaline cell discharged through various loads and teaches in column 9, line 57-63, that the conventional Zn/MnO₂ alkaline cell may operate typically with load resistance between 1 and 1000 ohms. Lin also teaches in column 10, lines 1-2, that the cathode mixture contained lambda MnO₂.

Since Lin teaches the same Zn /MnO₂ battery comprising a positive electrode which contains a lambda MnO₂ then inherently the same active cathode material having a specific discharge capacity to 0.8V cutoff of greater than 290, 300 or 310 mAh/g at a discharge rate of 20 mA/g of active material must also be obtained.

In addition, the presently claimed property of a positive electrode containing a lambda MnO₂ having the same active cathode material having a specific discharge capacity to 0.8V cutoff of greater than 290, 300 or 310 mAh/g at a discharge rate of 20

Art Unit: 1745

mA/g of active material would have obviously have been present once the Lin product is provided. *In re Best*, 195 USPQ 433 (CCPA 1977).

10. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (5,596,278) in view of Uetani et al. (Re 30,458).

Lin teaches in column 8, Example 1, a conventional Zn/MnO₂ (1.5 volt) AA alkaline cell discharged through various loads and teaches in column 9, line 57-63, that the conventional Zn/MnO₂ alkaline cell may operate typically with load resistance between 1 and 1000 ohms. Lin also teaches in column 10, lines 1-2, that the cathode mixture contained lambda MnO₂.

Lin discloses the claimed invention except for specifically teaching that the lambda-manganese dioxide has a BET surface area of greater than 4 or 8 m²/g.

Uetani et al. teaches a dry cell comprising a zinc anode, a depolarizing mix comprising manganese dioxide as its main component and a separator. Uetani et al. teaches in column 4, lines 17-20, that the manganese dioxide may have a BET surface area of about 30 to 120 m²/ gram.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manganese dioxide that had the claimed BET surface because Uetani et al. teaches that it is known to have a BET which is much greater than 8 m²/g and since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 1745

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (5,596,278) in view of Nagaura et al. (JP 1-120767, abstract).

Lin teaches in column 8, Example 1, a conventional Zn/MnO₂ (1.5 volt) AA alkaline cell discharged through various loads and teaches in column 9, line 57-63, that the conventional Zn/MnO₂ alkaline cell may operate typically with load resistance between 1 and 1000 ohms. Lin also teaches in column 10, lines 1-2, that the cathode mixture contained lambda MnO₂.

Lin discloses the claimed invention except for specifically teaching that the lambda-manganese dioxide has a BET surface area of greater than 4 or 8 m²/g or has a total pore volume of from 0.05 to 0.15 cubic centimeters per gram.

Nagaura et al. teaches that it is known that manganese dioxide is used as a positive active material has a specific surface area of 34-56 m²/g and that the pore volume can be increased by selecting a synthesizing condition and the specific surface area can be increased by the secondary treatment without changing the particle size.

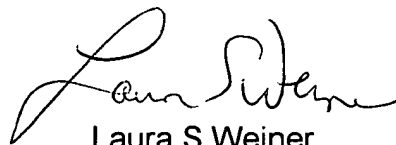
It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a manganese dioxide that had the claimed BET surface and the claimed total pore volume because Nagaura et al. teaches that it is known to have a BET which is much greater than 8 m²/g, teaches that it is known that pore volume can be increased by selecting a synthesizing condition and since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 1745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S Weiner whose telephone number is 703-308-4396. The examiner can normally be reached on M-F (7:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 703-308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

A handwritten signature in black ink, appearing to read 'Laura S Weiner', is positioned above the printed name and title.

Laura S Weiner
Primary Examiner
Art Unit 1745

September 8, 2003